Norwalk Tank Farm Update

Presented to the Norwalk Tank Farm Restoration Advisory Board

April 22, 1999

Presentation Overview

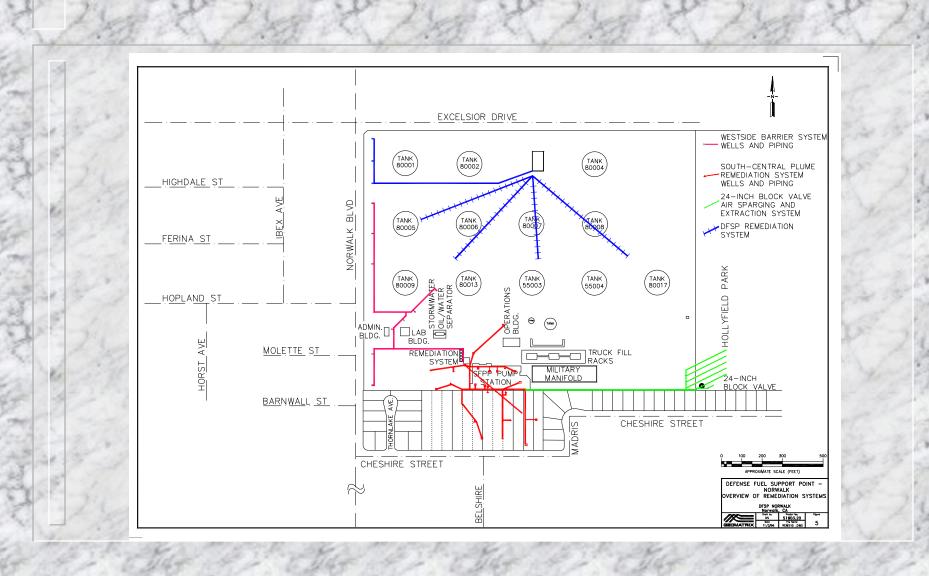
Topics to be Covered

- Remediation Operations Update
- Offsite 1,2-DCA Remediation Well/System
- Initial Phytoremediation Installation

SUMMARY OF REMEDIATION PROGRESS

- System placed in operation September 15, 1995
- System has operated 19,500 hours since startup

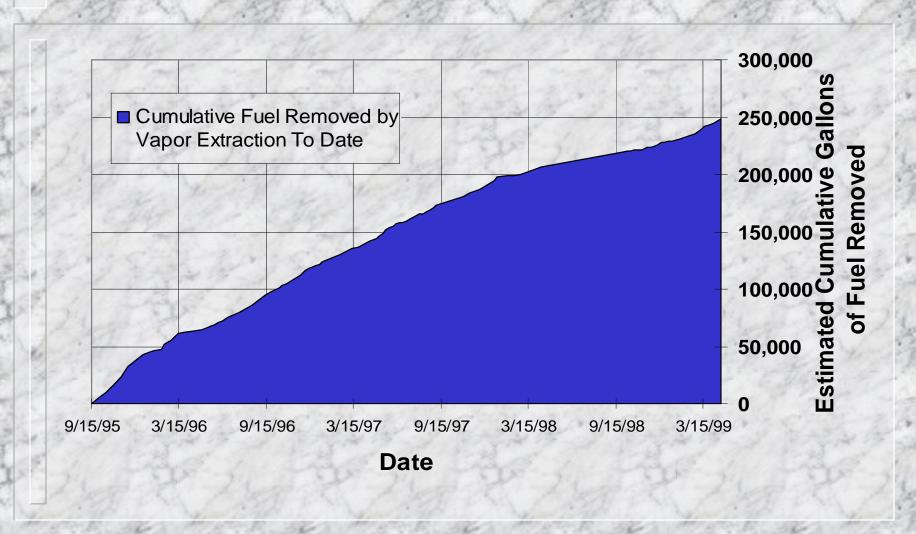
Map of Current Remediation Systems



Soil Vapor Extraction System Operations Summary

- 16 onsite and 7 offsite vapor extraction wells online in south central plume area.
- 2 vapor extraction wells plus sparge air recovery trenches in use in
 24-inch valve area.
- Approximately 248,000 gallons equivalent of fuel removed from soil and destroyed
- Approximately 18,000 gallons total of fuel removed since January RAB meeting

Soil Vapor Extraction System Operations Summary



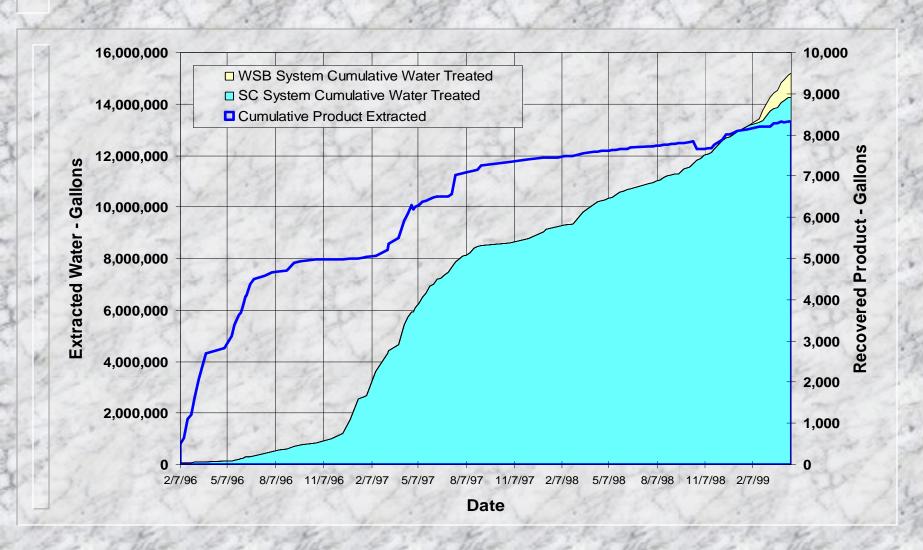
Groundwater and Product Extraction System Operations Summary

- 7 Product/groundwater extraction wells online in South/Central Plume area.
- New pump installed and operating in GMW-O-12 to increase remediation speed offsite to south.
- New pump to be installed in GMW-24 when pipeline work in area is completed (2-4 weeks), bringing total to 8 pumping wells.
- 1 Product/groundwater extraction well online in 24-inch valve area.
- **8** West Side Barrier wells in operation (not including DFSP wells).

Groundwater and Product Extraction System Operations Summary

- Approximately 14.3 million gallons of water pumped and treated by South-Central and 24-inch valve systems (1.5 million gallons since January RAB meeting).
- Approximately 0.9 million gallons of water treated by enhanced West Side Barrier treatment system since startup (0.9 million gallons since January RAB meeting).
- Approximately 15.2 million total gallons of water pumped by all systems since startup (2.4 million gallons since January RAB meeting, previous average about 1.4 million gallons per quarter since WSB wells installed).
- Approximately 8,300 gallons of liquid fuel recovered (Approximately 300 gallons since January RAB meeting).

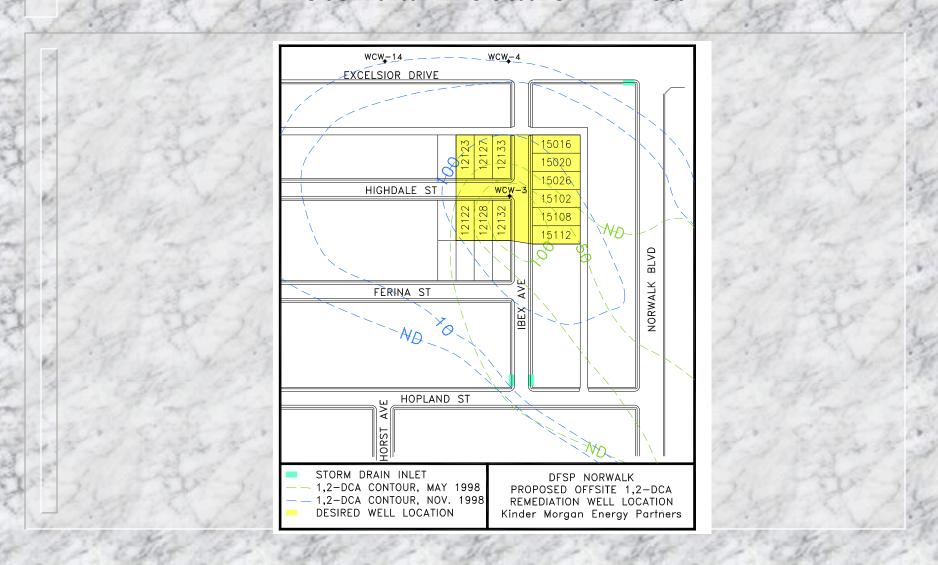
Groundwater and Product Extraction System Operations Summary



Offsite 1,2-DCA Remediation System

- Risk assessment indicates no significant risk from offsite 1,2-DCA plume with current onsite remediation systems in place.
- RWQCB, City, and neighbors would like remediation of offsite
 1,2-DCA plume.
- Only practical solution is an offsite pumping and treatment system, pumping water back to site is not practical.
- KMEP has identified a target area for a well/system and will be working with City and property owners to find a potential location for an offsite well and treatment system.

Offsite 1,2-DCA Remediation System Potential Location Area



Initial Phytoremediation Installation

- Initial phytoremediation installation scheduled for June 15, 1999.
- 80 to 100 cottonless poplars will be installed at a spacing of 8 to 10 feet.
- Planting area will be about 10,000 square feet in the southwest corner of the facility.

Initial Phytoremediation Installation

